MHF® I

Supports up to 9 GHz, mated height of 2.5 mm max. and 3.0 mm max.

Product Specifications:

Mated Height (mm max.)		(1) (2) 2.5 (3) 3.0	
Rece. SMT Size (mm)		3.1 x 3.0	
Applicable Frequency		DC ~ 9 GHz	
Characteristic Impedance		50 ohm	
VSWR (L=100 mm)	Connector	PLUG	RECEPTACLE
	DC ~ 3 GHz	1.3 max.	1.3 max.
	3 ~ 6 GHz	1.5 max.	1.4 max.
	6 ~ 9 GHz	(1) 1.9 max. (2)(3) 1.6 max.	1.8 max.

* Cable size O.D. (1) 0.81 mm, 1.13mm, 1.37 mm, 1.80 mm (2) 1.32 mm (3) 2.0 mm

Applicable Cable Size:

20278-112R-, 20670-001R-****
O.D. 0.81 mm / AWG 36
O.D. 1.13 mm, 1.32 mm / AWG 32
O.D. 1.80 mm / AWG 30
20351-112R-37
O.D. 1.37 mm / AWG 30
20767-001R-20
O.D. 2.0 mm / AWG 26

Applicable Standards (Reference Only):

5G sub-6, Wi-Fi 6E, LTE/LTE-Advanced, LPWA, Bluetooth, GPS

Solderless micro-coax termination technology "i-Fit®" provides consistent performance

Small form factor with big performance through 9 GHz

MHF® I plug available with various cable O.D. and additional locking option

Product name		MHF® I LK	MHF® I	MHF® I
Lock		With Lock	Without Lock	Without Lock
Mating Height		2.9 mm max.	2.5 mm max.	3.0 mm max.
Coaxial O.D. (Center Conductor AWG)	2.00 mm (AWG#26)			●
	1.80 mm (AWG#30)	●	●	
	1.37 mm (AWG#30)	●	●	
	1.32 mm (AWG#32)	●	●	
	1.13 mm (AWG#32)	●	●	
	0.81 mm (AWG#36)	●	●	
Receptacle		MHF® I receptacle 20279-001E-** (3 pads) / 20441-001E-01 (4 pads)		

Component Parts Details

MHF® I plug Au (0.81,1.13,1.32,1.80)

Recommended P/N	20278-112R-**
PART No.	APPLICABLE CABLE
20278-112R-08	AWG#36 (0.81 O.D.)
20278-112R-13	AWG#32 (1.13 O.D.)
20278-112R-32	AWG#32 (1.32 O.D.)

Halogen Free RoHS Compliant

NOTES
1. APPLICABLE CONNECTOR:
   20279-001E-**, 20431-001E-01, 20441-001E-01
2. PERMISSIBLE LOAD OF CABLE AT MATING
3. SUGGESTIONS FOR MATING & UNMATING OPERATION.
3-1. MATING
   PLEASE MATE THE CONNECTOR STRAIGHTLY TO VERTICAL DIRECTION AS MUCH AS POSSIBLE, ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE. AS EXCESSIVE SLANT ANGLE MATING MAY BREAK THE CONNECTOR, PLEASE DON'T DO IT.
3-2. UNMATING
3-2-1. IN CASE OF UNMATING BY PULLING TOOL
   PLEASE USE THE PULLING TOOL AS THE FOLLOWING DRAWING, AND please PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
3-2-2. IN CASE OF UNMATING DIRECTLY BY HAND
   PLEASE CATCH THE CATCHING AREA OF PLUG, AND PLEASE PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
3-3. CRIMP OVER STANDARDS OF OUTER CONDUCTOR
   STANDARDS: LESS THAN 10% FROM TOTAL NUMBERS OF OUTER CONDUCTOR.
   (NUMBERS OF OUTER CONDUCTOR'S CRIMP OVER FROM OUTER CONDUCTOR'S BARREL)
3-4. CAUTION ABOUT HEAT SHRINKAGE TUBES
   PLEASE BE CAREFUL NOT TO MELT HOUSING WHEN USING HEAT SHRINKAGE TUBES. IT WILL BECOME CAUSE OPEN CIRCUIT.
4. THIS IS "Pb-FREE" CONNECTOR.

NOTE 2.

NOTE 3-2-1.

NOTE 3-2-2.

NO.	DESCRIPTION	MATERIAL	FINISH , REMARKS
3	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN. CONTACT PART Au 0.05 μm MIN.
2	CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN. CONTACT PART Au 0.10 μm MIN.
1	HOUSING	PBT	UL94V-0, 20278-112R-08: WHITE 20278-112R-13, -32: BLACK

Rev.33

MHF® I plug Au (0.81,1.13,1.32,1.80)

Recommended P/N	20278-112R-**
PART No.	APPLICABLE CABLE
20278-112R-18	AWG#30 (1.80 O.D.)

Halogen Free RoHS Compliant

NOTES
5. APPLICABLE CONNECTOR:
20279-001E-**, 20431-001E-01, 20441-001E-01
6. PERMISSIBLE LOAD OF CABLE AT MATING
7. SUGGESTIONS FOR MATING & UNMATING OPERATION.
7-1. MATING
PLEASE MATE THE CONNECTOR STRAIGHTLY TO VERTICAL DIRECTION AS MUCH AS POSSIBLE, ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE. AS EXCESSIVE SLANT ANGLE MATING MAY BREAK THE CONNECTOR, PLEASE DON'T DO IT.
7-2. UNMATING
7-2-1. IN CASE OF UNMATING BY PULLING TOOL
PLEASE USE THE PULLING TOOL AS THE FOLLOWING DRAWING, AND please PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
7-2-2. IN CASE OF UNMATING DIRECTLY BY HAND
PLEASE CATCH THE CATCHING AREA OF PLUG, AND PLEASE PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
7-3. CRIMP OVER STANDARDS OF OUTER CONDUCTOR
STANDARDS: LESS THAN 10% FROM TOTAL NUMBERS OF OUTER CONDUCTOR.
(NUMBERS OF OUTER CONDUCTOR'S CRIMP OVER FROM OUTER CONDUCTOR'S BARREL)
7-4. CAUTION ABOUT HEAT SHRINKAGE TUBES
PLEASE BE CAREFUL NOT TO MELT HOUSING WHEN USING HEAT SHRINKAGE TUBES. IT WILL BECOME CAUSE OPEN CIRCUIT.
8. THIS IS "Pb-FREE" CONNECTOR.

NOTE 6.

NOTE 7-2-1.

NOTE 7-2-2.

NO.	DESCRIPTION	MATERIAL	FINISH , REMARKS
6	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00μm MIN. CONTACT PART Au 0.05μm MIN.
5	CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00μm MIN. CONTACT PART Au 0.10μm MIN.
4	HOUSING	PBT	UL94V-0, WHITE

Rev.33

Recommended P/N	20278-112R-**

PART NO.		20278-112R-08	20278-112R-13	20278-112R-32	20278-112R-18
APPLICABLE CABLE NOMINAL DIMENSION					
BRAIDED SHIELD OF OUTER CONDUCTOR		SINGLE	SINGLE	DOUBLE	SINGLE
PART NO. OF SEMI AUTO TERMINATION MACHINE		90213-008C	90213-013C	90213-032C	90232-018
SECT. B-B					
SECT. A-A					
CRIMP HEIGHT	CH-1	1.34～1.40	1.34～1.40	1.34～1.40	1.34～1.40
	CH-2	0.76～0.84	1.06～1.14	1.20～1.30	1.41～1.49
	CH-3	0.85～0.97	1.15～1.35	1.26～1.46	1.70～1.80

CABLE CUT LENGTH

CRIMP HEIGHT

NOTE 9. DO NOT USE SOLDER COATED EITHER INNER OR OUTER CONDUCTOR CABLE.

Rev.33

MHF® I plug Au (0.81,1.13,1.32,1.80)

ITEMS	SPECIFICATION	
RECOMMENDED APPLICABLE CONNECTOR PART No.	20279-001E-**	20441-001E-01
RATING VOLTAGE	60 V AC (R.M.S)	
RATING FREQUENCY	DC～9GHz	
OPERATING TEMPERATURE	233～363 K (-40℃～+90℃)	
VSWR (MATED WITH SMA ADAPTER PART No.90193-001)	1.30 MAX. AT 0.1～3 GHz, 1.50 MAX. AT 3～6 GHz, 1.90 MAX. AT 6～9 GHz (0.81 O.D. / 1.13 O.D. / 1.80 O.D.) 1.30 MAX. AT 0.1～3 GHz, 1.50 MAX. AT 3～6 GHz, 1.60 MAX. AT 6～9 GHz (1.32 O.D.)	
MAIN CONTACT RESISTANCE	INITIAL: 20 mohm MAX. / AFTER TEST: 25 mohm MAX.	
GROUND CONTACT RESISTANCE	INITIAL: 10 mohm MAX. / AFTER TEST: 15 mohm MAX.	
INSULATION RESISTANCE	INITIAL: 500 Mohm MIN. / AFTER TEST: 100 Mohm MIN.	
DIELECTRIC WITHSTANDING VOLTAGE	200 V AC, 1 MINUTE	
DURABILITY	30 CYCLES	
UNMATING FORCE (INITIAL / AFTER TEST)	5 N MIN. / 3 N MIN.	
CRIMP STRENGTH	20278-112R-08, 20278-112R-13, 20278-112R-32: 10 N MIN. 20278-112R-18: 15 N MIN.	
PRODUCT SPECIFICATION	PRS-1676	
TEST REPORT	TR-12044	
PACKING STANDARD	300-233	
INSTRUCTION MANUAL	HIM-10002	
APPEARANCE CRITERIA No.	QLS-A***	

Rev.33

MHF® I plug Au (1.37)

Recommended P/N	20351-112R-37
PART No.	
20351-112R-37	

Halogen Free RoHS Compliant

NOTES
1. APPLICABLE CONNECTOR:
   20279-001E-**, 20431-001E-01, 20441-001E-01
2. PERMISSIBLE LOAD OF CABLE AT MATING
3. SUGGESTIONS FOR MATING & UNMATING OPERATION
3-1. MATING
   PLEASE MATE THE CONNECTOR STRAIGHTLY TO VERTICAL DIRECTION AS MUCH AS POSSIBLE, ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE. AS EXCESSIVE SLANT ANGLE MATING MAY BREAK THE CONNECTOR, PLEASE DON'T DO IT.
3-2. UNMATING
3-2-1. IN CASE OF UNMATING BY PULLING TOOL
   PLEASE USE THE PULLING TOOL AS THE FOLLOWING DRAWING, AND PLEASE PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
3-2-2. IN CASE OF UNMATING DIRECTLY BY HAND
   PLEASE CATCH THE CATCHING AREA OF PLUG, AND PLEASE PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
3-3. CRIMP OVER STANDARDS OF OUTER CONDUCTOR
   STANDARDS: LESS THAN 10% FROM TOTAL NUMBERS OF OUTER CONDUCTOR.
   (NUMBERS OF OUTER CONDUCTOR'S CRIMP OVER FROM OUTER CONDUCTOR'S BARREL)
3-4. CAUTION ABOUT HEAT SHRINKAGE TUBES
   PLEASE BE CAREFUL NOT TO MELT HOUSING WHEN USING HEAT SHRINKAGE TUBES. IT WILL BECOME CAUSE OPEN CIRCUIT.
4. TIP OF CONTACT SHOULD BE RECESSED OF HOUSING AFTER CRIMPED ABOUT MATING AREA.
5. THIS IS "Pb-FREE" CONNECTOR.

NO.	DESCRIPTION	MATERIAL	FINISH , REMARKS
3	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN. CONTACT PART Au 0.05 μm MIN.
2	CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN. CONTACT PART Au 0.10 μm MIN.
1	HOUSING	PBT	UL94V-0, WHITE

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MHF® I plug Au (1.37)

BRAIDED SHIELD OF OUTER CONDUCTOR		SINGLE
PART NO. OF SEMI AUTO TERMINATION MACHINE		90232-037
CRIMP HEIGHT	CH-1	1.34～1.40
	CH-2	1.36～1.42
	CH-3	1.28～1.34

NOTE 6. DO NOT USE SOLDER COATED EITHER INNER OR OUTER CONDUCTOR CABLE.

Rev.21

ITEMS	SPECIFICATION	
RECOMMENDED APPLICABLE CONNECTOR PART No.	20279-001E-**	20441-001E-01
RATING VOLTAGE	60 V AC (R.M.S)	
RATING FREQUENCY	DC～9GHz	
OPERATING TEMPERATURE	233～363 K (-40°C～+90°C)	
VSWR	1.3 MAX. AT 0.1～3 GHz, 1.5 MAX. AT 3～6 GHz, 1.9 MAX. AT 6～9 GHz	
MAIN CONTACT RESISTANCE	INITIAL: 20 mohm MAX. / AFTER TEST: 25 mohm MAX.	
GROUND CONTACT RESISTANCE	INITIAL: 10 mohm MAX. / AFTER TEST: 15 mohm MAX.	
INSULATION RESISTANCE	INITIAL: 500 Mohm MIN. / AFTER TEST: 100 Mohm MIN.	
DIELECTRIC WITHSTANDING VOLTAGE	200 V AC, 1 MINUTE	
DURABILITY	30 CYCLES	
UNMATING FORCE (INITIAL / AFTER TEST)	5 N MIN. / 3 N MIN.	
CRIMP STRENGTH	15 N MIN.	
PRODUCT SPECIFICATION	PRS-1726	
TEST REPORT	TR-12096	
PACKING STANDARD	300-233	
INSTRUCTION MANUAL	HIM-10002	
APPEARANCE CRITERIA No.	QLS-A***	

Rev.21

MHF® I plug Ni top (0.81,1.13,1.32,1.37,1.80)

Recommended P/N	20670-001R-**
PART NO.	
20670-001R-08	
20670-001R-13	
20670-001R-32	

Halogen Free RoHS Compliant

NOTES
1. APPLICABLE CONNECTOR:
   20279-001E-**
   20431-001E-01
   20441-001E-01
2. PERMISSIBLE LOAD OF CABLE AT MATING
3. MATING AND UNMATING INSTRUCTION
3-1. MATING
   MAKE THE CONNECTOR VERTICALY AS MUCH AS POSSIBLE, ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE.
3-2. UNMATING
3-2-1. IN CASE OF UNMATING BY PULLING TOOL (PART NO. 90192-001): USE THE PULLING TOOL AS THE FOLLOWING DRAWING, AND PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
3-2-2. IN CASE OF UNMATING DIRECTLY BY HAND: CATCH THE CATCHING AREA OF PLUG, AND PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
3-3. CRIMP OVER STANDARDS OF OUTER CONDUCTOR
   STANDARDS: LESS THAN 10% FROM TOTAL NUMBERS OF OUTER CONDUCTOR.
   (NUMBERS OF OUTER CONDUCTOR'S CRIMP OVER FROM OUTER CONDUCTOR'S BARREL)
3-4. CAUTION ABOUT HEAT SHRINKAGE TUBES
   PLEASE BE CAREFUL NOT TO MELT HOUSING WHEN USING HEAT SHRINKAGE TUBES.
   IT WILL CAUSE OPEN CIRCUIT.
4. THIS IS "Pb-FREE" CONNECTOR.

NOTE 2.

NOTE 3-2-1.

NOTE 3-2-2.

PART NO. 20670-001R-08
20670-001R-13
20670-001R-32
FOR SEMI AUTO TERMINATION MACHINE

NO.	DESCRIPTION	MATERIAL	FINISH , REMARKS
3	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN. CONTACT PART Au 0.02 μm MIN. [Ni PLATING AREA] Ni ONLY
2	CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN. CONTACT PART Au 0.03 μm MIN.
1	HOUSING	PBT	UL94V-0, BLACK

Rev.8

Recommended P/N	20670-001R-**
PART No.	
20670-001R-18	

Halogen Free RoHS Compliant

NOTES
5. APPLICABLE CONNECTOR:
   20279-001E-**
   20431-001E-01
   20441-001E-01
6. PERMISSIBLE LOAD OF CABLE AT MATING
7. MATING AND UNMATING INSTRUCTION
7-1. MATING
   MAKE THE CONNECTOR VERTICALY AS MUCH AS POSSIBLE, ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE.
7-2. UNMATING
7-2-1. IN CASE OF UNMATING BY PULLING TOOL (PART NO. 90192-001): USE THE PULLING TOOL AS THE FOLLOWING DRAWING, AND PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
7-2-2. IN CASE OF UNMATING DIRECTLY BY HAND: CATCH THE CATCHING AREA OF PLUG, AND PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
7-3. CRIMP OVER STANDARDS OF OUTER CONDUCTOR
   STANDARDS: LESS THAN 10% FROM TOTAL NUMBERS OF OUTER CONDUCTOR.
   (NUMBERS OF OUTER CONDUCTOR'S CRIMP OVER FROM OUTER CONDUCTOR'S BARREL)
7-4. CAUTION ABOUT HEAT SHRINKAGE TUBES
   PLEASE BE CAREFUL NOT TO MELT HOUSING WHEN USING HEAT SHRINKAGE TUBES.
   IT WILL CAUSE OPEN CIRCUIT.
8. THIS IS "Pb-FREE" CONNECTOR.

NOTE 6.

NOTE 7-2-1.

NOTE 7-2-2.

PART NO. 20670-001R-18
FOR SEMI AUTO TERMINATION MACHINE

NO.	DESCRIPTION	MATERIAL	FINISH , REMARKS
6	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN. CONTACT PART Au 0.02 μm MIN. [Ni PLATING AREA] Ni ONLY
5	CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN. CONTACT PART Au 0.03 μm MIN.
4	HOUSING	PBT	UL94V-0, BLACK

Rev.8

MHF® I plug Ni top (0.81,1.13,1.32,1.37,1.80)

Recommended P/N	20670-001R-**
PART No.	
20670-001R-37	

Halogen Free RoHS Compliant

NOTES
9. APPLICABLE CONNECTOR:
20279-001E-**
20431-001E-01
20441-001E-01
10. PERMISSIBLE LOAD OF CABLE AT MATING
11. MATING AND UNMATING INSTRUCTION
11-1. MATING
MAKE THE CONNECTOR VERTICALY AS MUCH AS POSSIBLE, ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE.
11-2. UNMATING
11-2-1. IN CASE OF UNMATING BY PULLING TOOL (PART NO. 90192-001): USE THE PULLING TOOL AS THE FOLLOWING DRAWING, AND PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
11-2-2. IN CASE OF UNMATING DIRECTLY BY HAND: CATCH THE CATCHING AREA OF PLUG, AND PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
11-3. CRIMP OVER STANDARDS OF OUTER CONDUCTOR
STANDARDS: LESS THAN 10% FROM TOTAL NUMBERS OF OUTER CONDUCTOR.
(NUMBERS OF OUTER CONDUCTOR'S CRIMP OVER FROM OUTER CONDUCTOR'S BARREL)
11-4. CAUTION ABOUT HEAT SHRINKAGE TUBES
PLEASE BE CAREFUL NOT TO MELT HOUSING WHEN USING HEAT SHRINKAGE TUBES.
IT WILL CAUSE OPEN CIRCUIT.
12. THIS IS "Pb-FREE" CONNECTOR.

PART NO. 20670-001R-37
FOR SEMI AUTO TERMINATION MACHINE

NO.	DESCRIPTION	MATERIAL	FINISH , REMARKS
9	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00μm MIN. CONTACT PART Au 0.02μm MIN. [Ni PLATING AREA] Ni ONLY
8	CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00μm MIN. CONTACT PART Au 0.03μm MIN.
7	HOUSING	PBT	UL94V-0, BLACK

Rev.8

Recommended P/N	20670-001R-**

PART NO.		20670-001R-08	20670-001R-13	20670-001R-32	20670-001R-18
APPLICABLE CABLE NOMINAL DIMENSION		AWG #36(7/0.05) 2.09 ±0.1 1.25 ±0.1 1.16 ±0.1 φ0.40 NOMINAL (φ0.65) φ0.81 NOMINAL *SEE NOTE 14.	AWG #32(7/0.08) 2.09 ±0.1 1.25 ±0.1 1.16 ±0.1 φ0.68 NOMINAL (φ0.93) φ1.13 NOMINAL *SEE NOTE 14.	AWG #32(7/0.08) 2.09 ±0.1 1.25 ±0.1 1.16 ±0.1 φ0.66 NOMINAL (φ1.12) φ1.32 NOMINAL *SEE NOTE 14.	AWG #30(7/0.102) 2.09 ±0.1 1.25 ±0.1 1.16 ±0.1 φ0.84 NOMINAL (φ1.35) φ1.80 NOMINAL *SEE NOTE 14.
BRAIDED SHIELD OF OUTER CONDUCTOR		SINGLE	SINGLE	DOUBLE	SINGLE
PART NO. OF SEMI AUTO TERMINATION MACHINE		90213-008C	90213-013C	90213-032C	90232-018
SECT. B-B		1.68 1.12	2.24 1.48	2.29 1.56	2.71 1.90
SECT. A-A		1.72 1.19	2.28 1.55	2.37 1.71	3.10 2.26
CRIMP HEIGHT	CH-1	1.34～1.40	1.34～1.40	1.34～1.40	1.34～1.40
	CH-2	0.76～0.84	1.06～1.14	1.20～1.30	1.41～1.49
	CH-3	0.85～0.97	1.15～1.35	1.26～1.46	1.70～1.80

CABLE CUT LENGTH

CRIMP HEIGHT

NOTE
13. MUST NOT USE SOLDER COATED INNER CONDUCTOR AND OUTER CONDUCTOR.

Rev.8

MHF® I plug Ni top (0.81,1.13,1.32,1.37,1.80)

Recommended P/N	20670-001R-**

PART NO.		20670-001R-37
APPLICABLE CABLE NOMINAL DIMENSION		*SEE NOTE 15.
BRAIDED SHIELD OF OUTER CONDUCTOR		SINGLE
PART NO. OF SEMI AUTO TERMINATION MACHINE		90232-037
SECT. B-B		
SECT. A-A		
CRIMP HEIGHT	CH-1	1.34～1.40
	CH-2	1.36～1.42
	CH-3	1.28～1.34

CABLE CUT LENGTH

CRIMP HEIGHT

NOTE
14. MUST NOT USE SOLDER COATED INNER CONDUCTOR AND OUTER CONDUCTOR.

Rev.8

ITEMS	SPECIFICATION
RECOMMENDED APPLICABLE CONNECTOR PART No.	20279-001E-**
RATING VOLTAGE	60 V AC (R.M.S)
RATING FREQUENCY	DC～9GHz
OPERATING TEMPERATURE	233～363 K (-40℃～+90℃)
VSWR (MATED WITH SMA ADAPTER PART No:90193-001)	1.30 MAX. AT 0.1～3 GHz, 1.50 MAX. AT 3～6 GHz, 1.90 MAX. AT 6～9 GHz (0.81 O.D. / 1.13 O.D. / 1.37 O.D. / 1.80 O.D.) 1.30 MAX. AT 0.1～3 GHz, 1.50 MAX. AT 3～6 GHz, 1.60 MAX. AT 6～9 GHz (1.32 O.D.)
MAIN CONTACT RESISTANCE	INITIAL: 20 mohm MAX. / AFTER TEST: ⊿R 20 mohm MAX.
GROUND CONTACT RESISTANCE	INITIAL: 20mohm MAX. / AFTER TEST: ⊿R 100 mohm MAX.
INSULATION RESISTANCE	INITIAL: 500 Mohm MIN. / AFTER TEST: 100 Mohm MIN.
DIELECTRIC WITHSTANDING VOLTAGE	200 V AC, 1 MINUTE
DURABILITY	30 CYCLES
UNMATING FORCE (INITIAL / AFTER TEST)	5 N MIN. / 3 N MIN.
CRIMP STRENGTH	20670-001R-08, 20670-001R-13, 20670-001R-32: 10 N MIN. 20670-001R-18, 20670-001R-37: 15 N MIN.
PRODUCT SPECIFICATION	PRS-2105
TEST REPORT	TR-15059
PACKING STANDARD	300-233
INSTRUCTION MANUAL	HIM-10002
APPEARANCE CRITERIA No.	QLS-A***

Rev.8

Accessories for MHF® I plug

MHF I SMA ADAPTOR
PART NO. 90193-001

MHF I PLUG INSPECTION CONNECTOR
PART NO. 90194-001

FRONT SIDE BACK SIDE
MHF I UNMATING TOOL
PART NO. 90192-001

FRONT SIDE BACK SIDE
MHF I MATING AND UNMATING TOOL
PART NO. 90224-001

Rev.8

MHF® I plug (2.0 mm Cable O.D.)

Recommended P/N	20767-001R-20
PART No.	
20767-001R-20	

RECEPTACLE PART NO.
20279-001E-**
20431-001E-01
20441-001E-01

MATING CONDITION

Halogen Free RoHS Compliant

NOTES
1. APPLICABLE CONNECTOR:
20279-001E-**, 20431-001E-01, 20441-001E-01
2. MATING AND UNMATING INSTRUCTION
2-1. MATING
MATE THE CONNECTOR VERTICALY AS MUCH AS POSSIBLE, ADJUSTING THE MATING AXIS OF PLUG AND RECEPTACLE. DO NOT SLANT MATE.
2-2. UNMATING
2-2-1. IN CASE OF UNMATING BY PULLING TOOL (PART NO. 90885-0001)
USE THE PULLING TOOL AS THE FOLLOWING DRAWING, AND PLEASE PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.
2-2-2. IN CASE OF UNMATING DIRECTLY BY HAND
CATCH THE CATCHING AREA OF PLUG, AND PULL PLUG TO VERTICAL DIRECTION AS DIRECTLY AS POSSIBLE.

NOTES 2-1.

NOTES 2-2-1.

NOTES 2-2-2.

NO.	DESCRIPTION	MATERIAL	FINISH , REMARKS
3	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00μm MIN. CONTACT PART Au 0.05μm MIN.
2	CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00μm MIN. CONTACT PART Au 0.10μm MIN.
1	HOUSING	PBT	UL94V-0, BLACK

Rev.6

MHF® I plug (2.0 mm Cable O.D.)

PART NO.	20767-001R-20		
APPLICABLE CABLE NOMINAL DIMENSION			
BRAIDED SHIELD OF OUTER CONDUCTOR	SINGLE		
PART NO. OF SEMI AUTO TERMINATION MACHINE	90876-020		
CRIMP HEIGHT	CH-1 i-Fit® PART	CH-2 SHIELD PART	CH-3 JACKET PART
	2.28～2.36	1.81～1.87	1.95～2.01

Rev.6

ITEMS	SPECIFICATION	
RECOMMENDED APPLICABLE CONNECTOR PART No.	20279-001E-**	20441-001E-01
RATING VOLTAGE	60 V AC (R.M.S)	
RATING FREQUENCY	DC～9GHz	
OPERATING TEMPERATURE	233～363 K (-40℃～+90℃)	
VSWR (MATED WITH SMA ADAPTER PART No.90193-001)	1.30 MAX. AT 0.1～3 GHz, 1.50 MAX. AT 3～6 GHz, 1.60 MAX. AT 6～9 GHz	
MAIN CONTACT RESISTANCE	INITIAL: 20 mohm MAX. / AFTER TEST: ⊿R 20 mohm MAX.	
GROUND CONTACT RESISTANCE	INITIAL: 20 mohm MAX. / AFTER TEST: ⊿R 100 mohm MAX.	
INSULATION RESISTANCE	INITIAL: 500 Mohm MIN. / AFTER TEST: 100 Mohm MIN.	
DIELECTRIC WITHSTANDING VOLTAGE	200 V AC, 1 MINUTE	
DURABILITY	30 CYCLES	
UNMATING FORCE (INITIAL / AFTER TEST)	5 N MIN. / 3 N MIN.	
CRIMP STRENGTH	15 N MIN.	
PRODUCT SPECIFICATION	PRS-2490	
TEST REPORT	TR-18041	
PACKING STANDARD	PST-16007	
INSTRUCTION MANUAL	HIM-17017	
APPEARANCE CRITERIA No.	QLS-A***	

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Accessories for MHF® I plug (2.0 mm Cable O.D.)

MHF I SMA ADAPTOR
PART NO. 90193-001

MHF I PLUG INSPECTION CONNECTOR
PART NO. 90194-001

FRONT SIDE BACK SIDE

MHF I 20 TYPE MATING AND UNMATING TOOL
PART NO. 90885-0001

Rev.6

MHF® I Receptacle (3pads)

Recommended P/N	20279-001E-03	
PART NO.	PACKING REEL	QUANTITY IN 1 REEL
20279-001E-01	PLASTIC REEL	2,500
	CORRUGATED PAPER REEL	2,500
20279-001E-03	PLASTIC REEL	5,000
20279-001E-05	PLASTIC REEL	10,000

*LENGTH: 4.0±0.4 AT PLUG PART NO. 20670-001R-08, 20670-001R-13, 20670-001R-32
4.7±0.4 AT PLUG PART NO. 20670-001R-18, 20670-001R-37
5.6 AT PLUG PART NO. 20767-001R-20 (REFERENCE DIMENSION)
*MATING HEIGHT: 2.5 MAX. AT PLUG PART NO. 20670-001R-**
(2.9 MAX. AT MHF I LK LOCKED CONDITION)
3.0 MAX. AT PLUG PART NO. 20767-001R-20

MATING CONDITION

Halogen Free RoHS Compliant

NOTES
1. APPLICABLE CONNECTOR PART NO.
20278-11*R-**
20351-***R-37
20631-***R-**
20670-001R-**
20767-001R-20
2. COPLANARITY: 0.1mm MAX.
3. THIS IS "Pb-FREE" CONNECTOR.

NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
3	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN. CONTACT PART Au 0.05 μm MIN. SOLDERING PART Au 0.05 μm MIN.
2	CONTACT	BRASS	ALL OVER Ni 1.00 μm MIN. CONTACT PART Au 0.10 μm MIN. SOLDERING PART Au 0.03 μm MIN.
1	HOUSING	LCP	UL94V-0, WHITE

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MHF® I Receptacle (3pads)

Recommended P/N	20279-001E-03	
PART NO.	PACKING REEL	QUANTITY IN 1 REEL
20279-001E-06	PLASTIC REEL	10,000

Halogen Free RoHS Compliant

NOTES
1. APPLICABLE CONNECTOR PART NO.
   20278-11*R-**
   20351-***R-37
   20631-***R-**
   20670-001R-**
   20767-001R-20
2. COPLANARITY: 0.1mm MAX.
3. THIS IS "Pb-FREE" CONNECTOR.

*LENGTH: 4.0±0.4 AT PLUG PART NO. 20670-001R-08, 20670-001R-13, 20670-001R-32
4.7±0.4 AT PLUG PART NO. 20670-001R-18, 20670-001R-37
5.6 AT PLUG PART NO. 20767-001R-20 (REFERENCE DIMENSION)
*MATING HEIGHT: 2.5 MAX. AT PLUG PART NO. 20670-001R-**
(2.9 MAX. AT MHF I LK LOCKED CONDITION)
3.0 MAX. AT PLUG PART NO. 20767-001R-20

MATING CONDITION

NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
3	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00 μm MIN. CONTACT PART Au 0.05 μm MIN. SOLDERING PART Au 0.05 μm MIN.
2	CONTACT	BRASS	ALL OVER Ni 1.00 μm MIN. CONTACT PART Au 0.10 μm MIN. SOLDERING PART Au 0.03 μm MIN.
1	HOUSING	LCP	UL94V-0, WHITE

RECOMMENDED FOOTPRINT PATTERN

MASK THICKNESS: t=0.12

METAL MASK

CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN

REFLOW TEMPERATURE PROFILE
SENJU METAL INDUSTRY CO., LTD. : M705-SHF(Sn96.5 Ag3.0 Cu0.5)

NOTES.
4. NO GROUND, SIGNAL, AND RESIST IN THIS AREA.

MHF® I Receptacle (3pads)

COMPONENT PLACEMENT PROHIBITED AREA
FOR MHF I RECEPTACLE MATED WITH MHF I LK HARNESS
REQUIRED AREA FOR RECOMMENDED JIG TO OPERATE

SINGLE CONNECTOR LAYOUT

MATING AND LOCK CONDITION
WITH MHF I LK HARNESS

MULTIPLE CONNECTORS LAYOUT

MATING AND LOCK CONDITION
WITH MHF I LK HARNESS NARROW PITCH

MHF I LK HARNESS UNLOCK CONDITION
NARROW PITCH DIMENSIONS
(S = 5 : 1)

ITEMS	SPECIFICATION			
RECOMMENDED APPLICABLE CONNECTOR PART NO.	20278-001R-** (MHF I PLUG 1.80, 1.32, 1.13, 0.81)	20351-001R-** (MHF I PLUG 1.37)	20670-001R-** (MHF I PLUG Ni TOP 1.80, 1.37, 1.32, 1.13, 0.81)	20767-001R-20 (MHF I PLUG 2.00)
RATING VOLTAGE	60 V AC (R.M.S)			
RATING FREQUENCY	DC～9GHz			
OPERATING TEMPERATURE	233～363K (-40°C～+90°C)			
VSWR (MATED WITH SMA ADAPTER PART No.90193-002)	RECEPTACLE: 1.30 MAX. AT 0.1～3 GHz, 1.40 MAX. AT 3～6 GHz, 1.80 MAX. AT 6～9 GHz			
MAIN CONTACT RESISTANCE	INITIAL : 20 mohm MAX. AFTER TEST : 25 mohm MAX.		INITIAL : 20 mohm MAX. AFTER TEST : ⊿R 20 mohm MAX.	
GROUND CONTACT RESISTANCE	INITIAL : 10 mohm MAX. AFTER TEST : 15 mohm MAX.		INITIAL : 20 mohm MAX. AFTER TEST : ⊿R 100 mohm MAX.	
INSULATION RESISTANCE	INITIAL: 500 Mohm MIN. / AFTER TEST: 100 Mohm MIN.			
DIELECTRIC WITHSTANDING VOLTAGE	200 V AC, 1 MINUTE			
DURABILITY	30 CYCLES			
UNMATING FORCE (INITIAL / AFTER TEST)	INITIAL: 5 N MIN. AFTER TEST: 3 N MIN.			
PRODUCT SPECIFICATION	PRS-1676	PRS-1726	PRS-2105	PRS-2490
TEST REPORT	TR-12044	TR-12096	TR-15059	TR-18041
PACKING STANDARD	20279-001E-01: 300-232 (CORRUGATED PAPER REEL) PST-12002 (ANTI-STATIC PLASTIC REEL) 20279-001E-03: 300-850 20279-001E-05: PST-13040 20279-001E-06: PST-13040			
INSTRUCTION MANUAL	HIM-10002			HIM-17017
APPEARANCE CRITERIA No.	QLS-A***			

※UNLESS OTHERWISE SPECIFIED, 20279-001E-01 WILL BE DELIVERED IN CORRUGATED PAPER REELS.
CONTACT YOUR I-PEX SALES IF YOU WISH FOR PLASTIC REELS.

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MHF® I Receptacle (4pads/Black color HSG)

Recommended P/N	20441-001E-01
PART No.	
20441-001E-01	

Halogen Free RoHS Compliant

MATING CONDITION

*LENGTH: 4.0±0.4 AT PLUG PART NO. 20670-001R-08, 20670-001R-13, 20670-001R-32
4.7±0.4 AT PLUG PART NO. 20670-001R-18, 20670-001R-37
5.6 AT PLUG PART NO. 20767-001R-20 (REFERENCE DIMENSION)
*MATING HEIGHT: 2.5 MAX. AT PLUG PART NO. 20670-001R-**
(2.9 MAX. AT MHF I LK LOCKED CONDITION)
3.0 MAX. AT PLUG PART NO. 20767-001R-20

NOTES.
1. APPLICABLE CONNECTOR PART NUMBER:
20278-112R-**
20351-1**R-37
20670-001R-**
20767-001R-20
2. COPLANARITY: 0.1mm MAX.
3. THIS IS "Pb-FREE" CONNECTOR.

NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
3	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00μm MIN. CONTACT PART Au 0.03μm MIN. SOLDERING PART Au 0.03μm MIN.
2	CONTACT	BRASS	ALL OVER Ni 1.00μm MIN. CONTACT PART Au 0.10μm MIN. SOLDERING PART Au 0.03μm MIN.
1	HOUSING	LCP	UL94V-0, BLACK

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RECOMMENDED FOOTPRINT PATTERN

MASK THICKNESS: t = 0.12

METAL MASK

CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN

REFLOW TEMPERATURE PROFILE
SENJU METAL INDUSTRY CO., LTD. : M705-SHF(Sn96.5 Ag3.0 Cu0.5)

NOTE
4. NO GROUND, SIGNAL, RESIST IN THIS AREA.

Rev.8

MHF® I Receptacle (4pads/Black color HSG)

COMPONENT PLACEMENT PROHIBITED AREA
FOR MHF I RECEPTACLE MATED WITH MHF I LK HARNESS
REQUIRED AREA FOR RECOMMENDED JIG TO OPERATE

SINGLE CONNECTOR LAYOUT

MATING AND LOCK CONDITION
WITH MHF I LK HARNESS

MULTIPLE CONNECTORS LAYOUT

Rev.8

ITEMS	SPECIFICATION			
RECOMMENDED APPLICABLE CONNECTOR PART NO.	20278-001R-** (MHF I PLUG 1.80, 1.32, 1.13, 0.81)	20351-001R-** (MHF I PLUG 1.37)	20670-001R-** (MHF I PLUG Ni TOP 1.80, 1.37, 1.32, 1.13, 0.81)	20767-001R-20 (MHF I PLUG 2.00)
RATING VOLTAGE	60 V AC (R.M.S)			
RATING FREQUENCY	DC～9GHz			
OPERATING TEMPERATURE	233～363K (-40℃～+90℃)			
VSWR (MATED WITH SMA ADAPTER PART No.90193-002)	RECEPTACLE: 1.30 MAX. AT 0.1～3 GHz, 1.40 MAX. AT 3～6 GHz, 1.80 MAX. AT 6～9 GHz			
MAIN CONTACT RESISTANCE	INITIAL : 20 mohm MAX. AFTER TEST : 25 mohm MAX.		INITIAL : 20 mohm MAX. AFTER TEST : ⊿R 20 mohm MAX.	
GROUND CONTACT RESISTANCE	INITIAL : 10 mohm MAX. AFTER TEST : 15 mohm MAX.		INITIAL : 20 mohm MAX. AFTER TEST : ⊿R 100 mohm MAX.	
INSULATION RESISTANCE	INITIAL: 500 Mohm MIN. / AFTER TEST: 100 Mohm MIN.			
DIELECTRIC WITHSTANDING VOLTAGE	200 V AC, 1 MINUTE			
DURABILITY	30 CYCLES			
UNMATING FORCE (INITIAL / AFTER TEST)	INITIAL: 5 N MIN. AFTER TEST: 3 N MIN.			
PRODUCT SPECIFICATION	PRS-1676	PRS-1726	PRS-2105	PRS-2490
TEST REPORT	TR-12044	TR-12096	TR-15059	TR-18041
PACKING STANDARD	300-596			
INSTRUCTION MANUAL	HIM-10002			HIM-17017
APPEARANCE CRITERIA No.	QLS-A***			

Rev.8

MHF® I Receptacle (4pads/Natural color HSG)

Recommended P/N	20431-001E-01
PART No.	
20431-001E-01	

Halogen Free RoHS Compliant

MATING CONDITION

*LENGTH: 4.0±0.4 AT PLUG PART NO. 20670-001R-08, 20670-001R-13, 20670-001R-32
4.7±0.4 AT PLUG PART NO. 20670-001R-18, 20670-001R-37
5.6 AT PLUG PART NO. 20767-001R-20 (REFERENCE DIMENSION)
*MATING HEIGHT: 2.5 MAX. AT PLUG PART NO. 20670-001R-**
(2.9 MAX. AT MHF I LK LOCKED CONDITION)
3.0 MAX. AT PLUG PART NO. 20767-001R-20

NOTES.
1. APPLICABLE CONNECTOR PART NUMBER:
20278-112R-**
20351-1**R-37
20670-001R-**
20767-001R-20
2. COPLANARITY: 0.1mm MAX.
3. THIS IS "Pb-FREE" CONNECTOR.

NO.	DISCRIPTION	MATERIAL	FINISH , REMARKS
3	GROUND CONTACT	PHOSPHOR BRONZE	ALL OVER Ni 1.00μm MIN. CONTACT PART Au 0.03μm MIN. SOLDERING PART Au 0.03μm MIN.
2	CONTACT	BRASS	ALL OVER Ni 1.00μm MIN. CONTACT PART Au 0.10μm MIN. SOLDERING PART Au 0.03μm MIN.
1	HOUSING	LCP	UL94V-0, NATURAL

Rev.6

RECOMMENDED FOOTPRINT PATTERN

MASK THICKNESS : t=0.12
METAL MASK

CONNECTOR ON RECOMMENDED FOOTPRINT PATTERN

REFLOW TEMPERATURE PROFILE
SENJU METAL INDUSTRY CO., LTD. : M705-SHF(Sn96.5 Ag3.0 Cu0.5)

NOTES.
4. NO GROUND, SIGNAL, RESIST IN THIS AREA.

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MHF® I Receptacle (4pads/Natural color HSG)

COMPONENT PLACEMENT PROHIBITED AREA
FOR MHF I RECEPTACLE MATED WITH MHF I LK HARNESS
REQUIRED AREA FOR RECOMMENDED JIG TO OPERATE

SINGLE CONNECTOR LAYOUT

MATING AND LOCK CONDITION
WITH MHF I LK HARNESS

MULTIPLE CONNECTORS LAYOUT

MATING AND LOCK CONDITION
WITH MHF I LK HARNESS NARROW PITCH

MHF I LK HARNESS UNLOCK CONDITION
NARROW PITCH DIMENSIONS
(S = 5 : 1)

Rev.6

ITEMS	SPECIFICATION			
RECOMMENDED APPLICABLE CONNECTOR PART NO.	20278-001R-** (MHF I PLUG 1.80, 1.32, 1.13, 0.81)	20351-001R-** (MHF I PLUG 1.37)	20670-001R-** (MHF I PLUG Ni TOP 1.80, 1.37, 1.32, 1.13, 0.81)	20767-001R-20 (MHF I PLUG 2.00)
RATING VOLTAGE	60 V AC (R.M.S)			
RATING FREQUENCY	DC～9GHz			
OPERATING TEMPERATURE	233～363K (-40°C～+90°C)			
VSWR (MATED WITH SMA ADAPTER PART No.90193-002)	RECEPTACLE: 1.3 MAX AT 0.1～3 GHz, 1.4 MAX AT 3～6 GHz, 1.8 MAX. AT 6～9 GHz			
MAIN CONTACT RESISTANCE	INITIAL: 20 mohm MAX. AFTER TEST: 25 mohm MAX.		INITIAL: 20 mohm MAX. AFTER TEST: ⊿R 20 mohm MAX.	
GROUND CONTACT RESISTANCE	INITIAL: 10 mohm MAX. AFTER TEST: 15 mohm MAX.		INITIAL: 20 mohm MAX. AFTER TEST: ⊿R 100 mohm MAX.	
INSULATION RESISTANCE	INITIAL: 500 Mohm MIN. / AFTER TEST: 100 Mohm MIN.			
DIELECTRIC WITHSTANDING VOLTAGE	200 V AC, 1 MINUTE			
DURABILITY	30 CYCLES			
UNMATING FORCE (INITIAL / AFTER TEST)	INITIAL: 5 N MIN. AFTER TEST: 3 N MIN.			
PRODUCT SPECIFICATION	PRS-1676	PRS-1726	PRS-2105	PRS-2490
TEST REPORT	TR-12044	TR-12096	TR-15059	TR-18041
PACKING STANDARD	PST-17011			
INSTRUCTION MANUAL	HIM-10002			HIM-17017
APPEARANCE CRITERIA No.	QLS-A***			

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Accessories for MHF® I Receptacle

MHF I SMA ADAPTER
PART NO. 90193-002

MHF I RECEPTACLE HIGH CYCLE N45 C ADAPTER
PART NO. 90575-0001

MHF SERIES N45 C TO SMA ADAPTER CABLE
PART NO. 90577-****

* 90575-0001 AND 90577-**** SHOULD BE USED TOGETHER.

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Custom Connectors Available

RF Connectors

MHF® series

Micro-coaxial/Twinax Connectors

CABLINE® series

Wire-to-Board Connectors/ Terminals

AP series

ISH® series

Board-to-Board Connectors

NOVASTACK® series

I/O Connectors

MINIDOCK™ series

FPC/FFC Connectors

MINIFLEX® series

EVAFLEX® series

Inquiry

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